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As a CAUSE OF DEAFNESS.

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DISEASE OF THE NASO-PHARYNX AS A CAUSE OF DEAFNESS.*

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The frequent occurrence of deafness, in connection with disease of the naso-pharyngeal cavity, forcibly suggests the importance of careful examination and early treatment of the adjacent organs, associated by continuity of their lining membrane with the middle ear. The presence of inflammatory changes in the eustachian tubes and tympanic cavity, be the same of an acute or chronic character, of a suppurative or non-suppurative form, accompanied with or without impairment of hearing, has its origin, in a large percentage of cases, in some abnormal changes in the mucous membrane lining the nose and pharynx. It is remarkable that many of the symptoms indicating a diseased condition of the mucous membrane of the naso-pharyngeal cavity, especially such pronounced symptoms as snuffles, impeded nasal respiration and snoring, and those symptoms so frequently the accompaniment of infancy and childhood, should be generally overlooked, and as a rule pronounced to be of little or no consequence, until the anxious parent or patient, alarmed by the persistency of an offensive discharge from the ear, coupled with partial or total deafness, consults the specialist for an explanation

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of the causes, and the chances of treatment for the restoration of the hearing power.

The causes tending to a development of catarrhal disease of the mucous membrane lining the nose and pharynx are, in a large percentage of cases, the sequelæ of diseases incident to infancy and childhood, and the responsibility of failing to provide early and timely treatment—that is, before the mischief caused by this disease is beyond repair—must be assumed by the practitioner, who oftentimes fails to recognize the importance of checking catarrhal inflammation of the naso-pharynx before the middle ear is implicated and deafness has resulted. In looking over the history of the many cases of acute and chronic otitis media which have come under my observation, I am convinced that the primary and predisposing cause in exciting and maintaining catarrhal disease of the middle ear is, in seventy-five per cent. of cases, due to abnormal changes in the mucous membrane lining the nose and pharynx. The existence of acute or chronic catarrhal inflammation, the presence of adenoid vegetations, or any abnormal changes in the naso-pharynx, if not early arrested by proper treatment, will eventually set up, by spreading through the pharyngeal entrance of the eustachian tube, disease of the middle ear. It is also by this channel of communication that the inflammatory changes in the naso-pharyngeal cavity, associated with exanthematous disease, especially in scarlet fever and measles, are apt to invade the middle ear and establish disease of such a character that it will, if not prudently managed at the outset, result in incurable deafness. The frequency of chronic purulent inflammation of the middle ear, commonly known as otorrhœa, can generally be traced to the causes above mentioned.

Acute and chronic catarrhal conditions of the naso-pharyngeal cavity are accepted as predisposing causes for the development of inflammatory changes in the middle ear. It will, therefore, not be out of place at this time to briefly refer to the process by which catarrhal disease of the naso-pharynx is communicated to the middle ear through the eustachian tubes. The eustachian tube acts as a ventilator for the cavity of the tympanum, and forms a channel for the escape of mucus from the middle ear; hence any change or obstruction interfering with the normal ventilation of the ear, be the same caused by closure due to abnormal growths, by inflammatory condition in the mucous lining, or by structural changes in the walls of the tubes, even-

tually destroys the patency of the same and disturbs the free interchange of air between the outer atmosphere and the tympanic cavity. The spreading of catarrhal disease from the naso-pharynx to the mucous lining of the eustachian tube necessarily, to a greater or lesser extent, interferes with the normal ventilating function of the tube, and by the rarefaction of air in the middle ear the drum membrane and ossicula are forced inwards, and the structural changes resulting from this obstruction rapidly deprived of their vibrating power, develop irreparable deafness.

In acute catarrhal disease of the naso-pharyngeal cavity, the inflammatory process, extending into the eustachian tubes, causes a slight swelling of the lining membrane, with increased secretion of mucus; and even if this inflammatory process spreads to the tympanic cavity, it readily yields to timely and proper treatment, but in the chronic and neglected forms of catarrhal disease, the structural changes in the eustachian tubes and middle ear are of such a character that no encouragement should be given to the patient for the restoration of the hearing power. In many cases of chronic otitis media, especially those of a suppurative form, and when the discharge is of an offensive nature, the assurance that treatment will arrest the discharge is of sufficient encouragement to the patient that he will gladly submit to treatment. Caution should govern all promises for the restoration of the hearing power in cases of chronic suppurative inflammation of the middle ear. The predisposing causes, by reason of easy access to the naso-pharynx and the discharge from the ear, will yield to treatment, but the changes which have taken place in the eustachian tubes and middle ear, and to which the total or partial deafness resulting is due, are permanent and irreparable. The intensity of acute and chronic catarrhal disease of the middle ear is largely governed by the condition predisposing to the same in the naso-pharynx, and the condition of the naso-pharynx is oftentimes dependent upon bronchial and pulmonary troubles; hence the importance of careful examination of the throat and chest, together with diligent search for the causes that produce disease of the tympanic cavity, which will greatly assist the treatment and prognosis. The experience of every practitioner will justify the assertion that a large number of people of all ages, sex and classes are victims of catarrhal disease of the naso-pharyngeal cavity, and it is safe to say that fully thirty per cent. of such people

suffer more or less from impairment of hearing. The indifference and little encouragement with which this class of patients are advised by physicians frequently compels them to seek the service of charlatans, who loudly and with flattering testimonials advertise their skill in curing these chronic ailments. How many of these unfortunate patients are incapacitated, in consequence of partial or total deafness, to enjoy the comforts of life, and deprived, in consequence of an offensive discharge from the fauces and ear, to mingle in the pleasures of society, only those who are daily brought in contact with the large number of patients seeking relief from this most annoying disability can best judge. It is a fact to be regretted that with singular indifference many physicians fail to recognize the importance of conquering the early symptoms of catarrhal disease of the naso-pharyngeal cavity—and of thus placing the patient beyond the chances of contracting a disability likely to result in incurable deafness, notwithstanding the assurance that prompt treatment of these cases may prevent a partial or total loss of hearing—and cling to the erroneous belief that no harm can result from a progressive suppurative inflammation of the pharynx, nasal passages and middle ear. Every practitioner of medicine should be qualified to readily diagnose any abnormal changes occurring in the naso-pharynx and eustachian tubes; he should be especially watchful in cases of scarlet fever and measles, and by daily examination of the naso-pharyngeal cavity and middle ear prescribe, when necessary, proper treatment.

In the management of exanthematous diseases it is important to note the condition of the ears during the several stages of the disease, for it is safe to say that in all cases of acute and progressive exanthema the eustachian tubes participate in the general febrile and inflammatory condition, and if timely treatment and attention be directed to these parts, the large percentage of incurable cases of deafness and chronic otorrhoea resulting from neglected treatment will be materially reduced. In scarlatina associated with diphtheria, and in small-pox, the occurrence of inflammatory changes in the eustachian tubes and middle ears are of such virulent nature that unless vigilant care is exercised by physician and nurse the conditions established speedily result in permanent impairment of the hearing power.

In searching for the causes that predispose to catarrhal disease of the naso-pharynx and middle ear, statistics clearly demon-

strate that a large percentage of those cases are the result of diseases incident to infancy and childhood; and, in connection with this fact, it is well to add that the peculiar susceptibility of the lining of the naso-pharyngeal cavity in children, owing to a more active and plethoric condition of the blood vessels and a more liberal development of the glandular tissue, especially surrounding the orifice of the eustachian tube and covering the pharyngeal arch, predisposes to inflammatory disturbances; and it is owing to this undue activity of the vessels and strongly developed glandular tissue that children when suffering from coryza, influenza or an acute exanthema, are more susceptible to the development of catarrhal disease than persons of a more mature age.

In considering the many local causes surrounding the habits of children that predispose to the development of naso-pharyngeal ailments—in the home circle frequently subjected to the inhalation of the impure air of poorly ventilated rooms and crowded nurseries, during out-door sports exposed to the changes of temperature, during the period of school life brought in contact with the irritating effect of an atmosphere loaded with innumerable particles of chalk crayon and frequently impregnated with gases from defective drainage and heating—does it not stand to reason that the naso-pharynx, as a part of the respiratory tract, during childhood is more exposed to the influences predisposing to catarrhal inflammation than in adult life?

In infancy and early life the intimate connection of the dura mater with the cavity of the tympanum, at the juncture of the petrous with the squamous portion of the temporal bone, demands that the symptoms and progress of catarrhal inflammation of the middle ear should be carefully watched; for, owing to the anatomical relations above mentioned, there is danger of the inflammation extending to the membrane of the brain and developing intracranial disturbances. The danger of cerebral complications in diseases of the middle ear in young children is equally as great in the acute and non-suppurative as in the chronic and purulent forms of otitis media.

In children suffering from acute and chronic aural catarrh, a partial or complete closure of the nasal passages materially interferes with the respiratory act, and greatly disturbs the equilibrium between the internal and external interchange of atmospheric pressure, causing a rarefaction of air in the tympanic

cavity and constituting a condition favorable for the development of deafness. Inability to breathe by the nose is a symptom frequently observed in children, with which every physician is familiar; it is a condition which greatly annoys the patient, and a common feature resulting from an influenza or cold. As a rule no importance is attached to this condition. Its presence is generally claimed to be dependent, and justly so, upon the severity of an attack of influenza or to a common cold, and if nature fails to remedy the trouble, the patient reaches the age of maturity with a chronic nasal catarrh and its detrimental consequences. Impeded nasal respiration is a symptom of abnormality of the naso-pharynx, the presence of which it is essential to consider in all forms of catarrhal disease of the middle ear. It may be accepted as an inflammatory and hypertrophied condition of the mucous lining of the naso-pharyngeal cavity, of malformation of the turbinated bones, of nasal polypi, of the presence of adenoid growths in the post-nasal space, and as exercising, by interfering with normal respiration, an important factor for the development of catarrhal inflammation of the middle ear and subsequent deafness. Usually this condition is ascribed by physicians to a force of habit, with the belief that the same will yield as the child grows older without the aid of therapeutic or operative treatment, and unfortunately this erroneous belief is the cause of the general chronic character of this trouble, with its nasal, pharyngeal and aural complications, which specialists are so frequently called upon to remedy in connection with partial or total deafness. It is the duty of the physician to urge the importance of prompt treatment in the incipient stages of nasal obstruction and to remedy by therapeutic or operative procedure the presence of any pathological changes of the nasal air passages. Prompt treatment for the relief of nasal obstruction will prevent inflammatory disturbances in the pharynx and middle ear, and abort the danger of disabling the patient, not only by a loss of the acuteness of hearing, but also by destroying the sense of smell and materially reducing the resonant clearness of the voice. The annoying and often-times serious consequences likely to result from this impediment demand prompt and energetic treatment tending to a radical cure of the same.

Acute catarrhal inflammation of the mucous membrane lining the pharynx frequently, by reflex irritation, produces a vascular

condition of the drum membrane and impairs the acuteness of hearing without the presence of any trophic changes in the eustachian tubes and middle ear. This form of catarrhal disease has a tendency to recurrence, and in many people there exists a predisposition for development of acute pharyngitis upon the slightest exposure to the changes of temperature. In many cases the repeated occurrence of this trouble eventually develops a hypertrophied condition of the mucous membrane and glandular tissue of the vault of the pharynx, and this chronic condition, extending to the eustachian tubes, seriously interferes with normal hearing. Recurring attacks of pharyngitis are decidedly operative in causing abnormal changes in the eustachian tubes and middle ear, and the importance of energetic treatment tending to relieve this fluctuating pharyngeal inflammation must not be overlooked. The presence of growths or vegetation in the pharyngeal cavity undoubtedly induces—especially when the same are located close to the orifice of the eustachian tube, either by obstructing the mouth of the tube or producing inflammatory changes in the mucous lining—a diminution of the normal acuteness of hearing, and it is the disability resulting from deafness, and not from these excrescences that prompts the patient to apply for treatment. Failure to remove these growths by surgical or chemical means renders all treatment for the restoration of the hearing power ineffectual.

It is claimed that the existence of adenoid growths in the post-nasal or pharyngeal space, and their association with a condition in the eustachian tubes and middle ear interfering with the hearing power, are not of as frequent occurrence as demonstrated by the researches of many eminent specialists, who have endeavored to convince the profession that the frequency of such symptoms as impeded nasal respiration, snuffles, and especially snoring, indicate the existence of these growths, and that the diminution of the hearing power, when associated with such impediments, can invariably be traced to the presence of abnormal growths in the naso-pharynx.

On a former occasion I presented to this society the history of several cases of deafness resulting from adenoma at the vault of the pharynx, and the happy results attained in restoring the normal acuteness of hearing by operative treatment for the removal of these growths. Since then experience has thoroughly convinced me that deafness resulting from post-nasal and phar-

yngeal growths, especially among children, is not of rare occurrence; and, judging from the cases that have come under my observation, both in private and dispensary practice, I am satisfied of the correctness of the theory that the predisposing cause of deafness, in all cases where the presence of these vegetations are diagnosed, can safely be traced to the changes produced in the pharynx, eustachian tubes and middle ear by the existence of adenomatous tumors.

Aural diseases from causes that can be traced to abnormalities in the naso-pharynx, with the exception of those cases that are chronic in character, and where the loss of hearing is due to structural changes in the eustachian tubes and middle ear, promise encouraging results when proper attention and treatment are devoted to the patient before serious complications are developed.

The frequency of aural diseases during the period of infancy and childhood, and the general lack of importance attached to prudent management of a condition likely to result in irreparable structural changes, clearly points to the fact that many of the causes developing partial or total deafness are due to ear troubles contracted during early life. It is no longer a theory, but an established fact, that aural complications are the frequent accompaniment of ailments incident to infancy and childhood, and the profession can scarcely fail to appreciate the efforts of the specialist in directing attention to the fact that the large percentage of cases of incurable deafness will be materially reduced by a proper knowledge of the pathology and therapeutics of aural diseases.

